

Date: Tuesday, 7/1/2008 10:46:58 AM  
 User: Kim Johnston

## Process Sheet

Customer	: CU-DAR001 Dart Helicopters Services		Drawing Name	: BEARING ASSEMBLY		
Job Number	: 40157		Part Number	: D3121241		
Estimate Number	: 10716		Drawing Number	: D3121 REV E		
P.O. Number	:		Project Number	: N/A		
This Issue	: 7/1/2008	S.O. No. :	Drawing Revision	: E		
Prsht Rev.	: NC		Material	:		
First Issue	: / /	Type	: MACHINED PARTS			
Previous Run	: 39948		Due Date	: 7/14/2008	Qty:	100
Written By	:		Um:	40 Each		
Checked & Approved By	:					
Comment	: Est Rev:A 04.02.18 New issue KJ/DS Est Rev:B ECN 1060 07-11-12 DD verified by:EC					

## Additional Product

Job Number:



Seq. #:	Machine Or Operation:	Description :
1.0	MDELRINR12500	DELTRIN ROUND BAR 1.25" 4.2588
Comment:	Qty.: 0.0546 f(s)/Unit Total : 2.1810 f(s)	Material: Ø1.25 Delrin Rod (M-DELTRIN-R1.2500) Identify as D3121-25
Batch:	M107258	
2.0	HARDINGE	HARDINGE CNC LATHE SMALL
Comment:	HARDINGE CNC LATHE SMALL	
1-Turn D3121-25 Cap as per Folio FA387	mwf 08/07/10	
2-Deburr	mwf 08/07/10	
3.0	QC2	INSPECT PARTS AS THEY COME OFF MACHINE
Comment:	INSPECT PARTS AS THEY COME OFF MACHINE	
4.0	QC8	SECOND CHECK
Comment:	SECOND CHECK	
5.0	D312123	Bearing
Comment:	Qty.: 1.0000 Each(s)/Unit Total : 40.0000 Each(s)	
Pick:		
Qty Part Number	Description	Batch
1 D3121-23	Bearing	3 39962
		62
		40397
		16

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_  
 QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

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## Process Sheet

Customer: CU-DAR001 Dart Helicopters Services		Drawing Name: BEARING ASSEMBLY
Job Number: 40157		Part Number: D3121241
Job Number: 		
Seq. #:	Machine Or Operation:	Description :
6.0	SMALL FAB 1 	SMALL & MEDIUM FAB RESOURCE 1 
Comment: SMALL & MEDIUM FAB RESOURCE 1 1-Press D3121-23 Bearing into D3121-25 Cap as per Dwg D3121 <i>8/08/07/17 (78)</i>		
7.0	QC5 	INSPECT WORK TO CURRENT STEP <i>8/08/07/17 (78) coconeo</i>
Comment: INSPECT WORK TO CURRENT STEP <i>8/08/07/17 (78)</i>		
8.0	PACKAGING 1 	PACKAGING RESOURCE #1  <i>78x</i>
Comment: PACKAGING RESOURCE #1 Identify and Stock Location: <i>238</i> <i>8/7/17 SP</i>		
9.0	QC21 	FINAL INSPECTION/W/O RELEASE  <i>08/07/18 (78)</i>
Comment: FINAL INSPECTION/W/O RELEASE <i>u 08-07-18</i>		
Job Completion 		

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_  
 QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

DART AEROSPACE LTD	Work Order:	40151
Description: Cap	Part Number:	D3121-25
Inspection Dwg: D3121 Rev: E		Page 1 of 1

## FIRST ARTICLE INSPECTION CHECKLIST

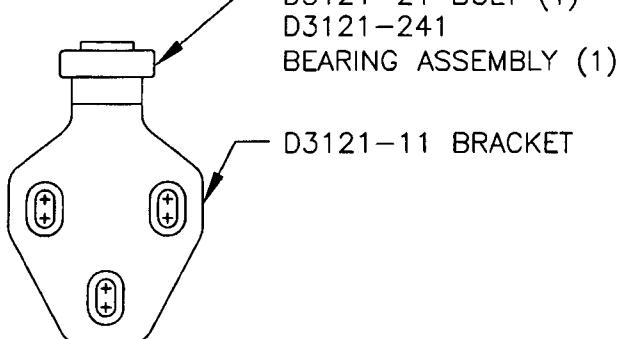
## X First Article Prototype

Measured by: <u>MM</u>	Audited by: <u>DTB</u>	Prototype Approval:	N/A
Date: <u>28/07/10</u>	Date: <u>28/07/10</u>	Date:	N/A

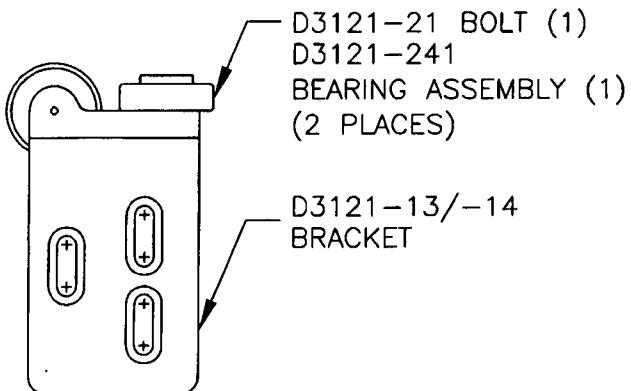
Rev	Date	Change	Revised by	Approved
A	04.04.20	New Issue (P/O D3121-241)	KJ/RF	
B	06.06.09	Ø1.000 diameter was Ø1.024	KJ/JLM	
C	08.01.16	Dwg Rev. updated	KJ/EC/DD	✓

**DART**

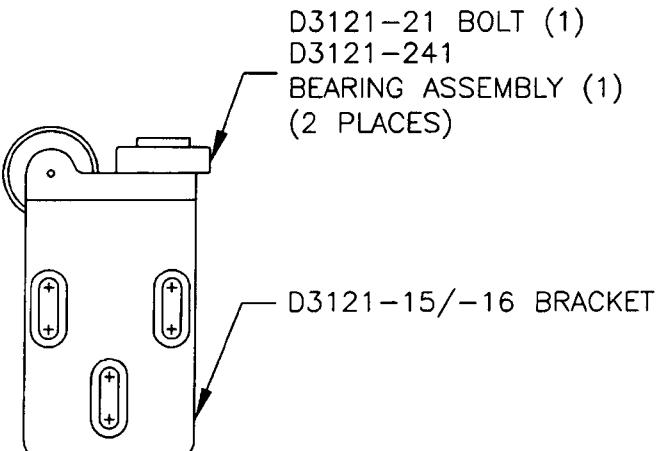
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CHECKED	APPROVED	DRAWING NO. D3121
DATE		REV. E SHEET 1 OF 10
07.11.07		TITLE SCALE BRACKET ASSEMBLY 1:2
A	02.04.15	NEW ISSUE
B	03.01.16	ADD RIDGES; ADD MAT'L PROP; FIX P/N ADD -141/-143/-144/-145/-146
C	04.02.17	ADD CLEARANCE; USE -241 BEARING
D	06.05.17	D3121-25 CAP WAS 1.024, NOW 1.000
E	07.11.07	ADD TOLERANCE TO 0.032 (DETAIL B)

**RELEASED**  
07.11.07 *WJD***D3121-041 BRACKET ASSEMBLY**

(REPLACES PREMIER P/N B30-23000-33)

**D3121-043 (SHOWN) / D3121-044 (OPPOSITE)  
BRACKET ASSEMBLY**

(REPLACES PREMIER P/N B30-23000-37/-38)

**D3121-045 (SHOWN) / D3121-046 (OPPOSITE)  
BRACKET ASSEMBLY**

(REPLACES PREMIER P/N B30-23000-35/-36)

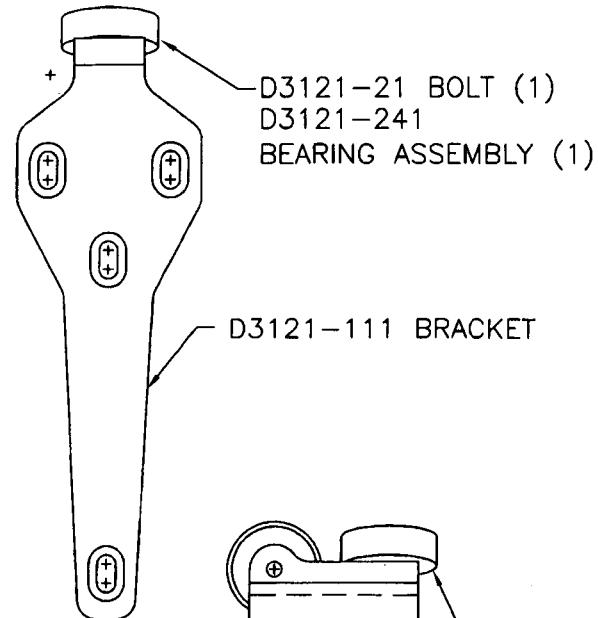
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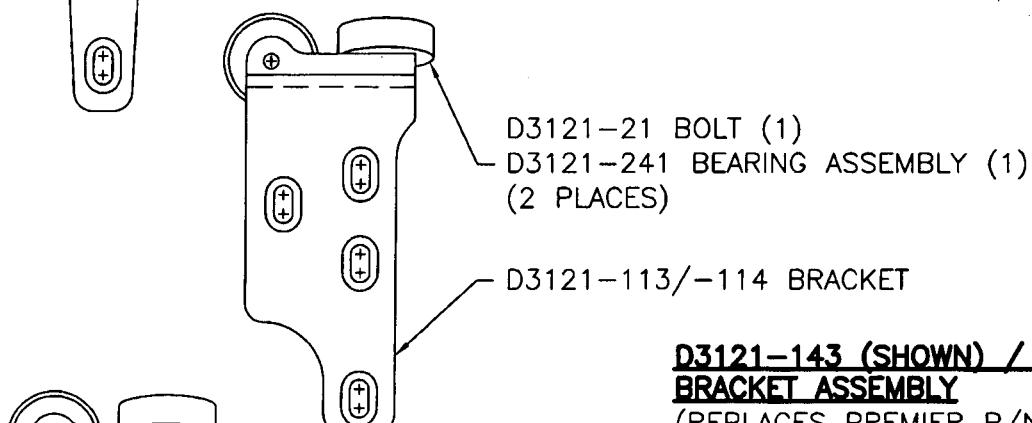
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DATE 07.11.07		TITLE BRACKET ASSEMBLY	SCALE 1:2

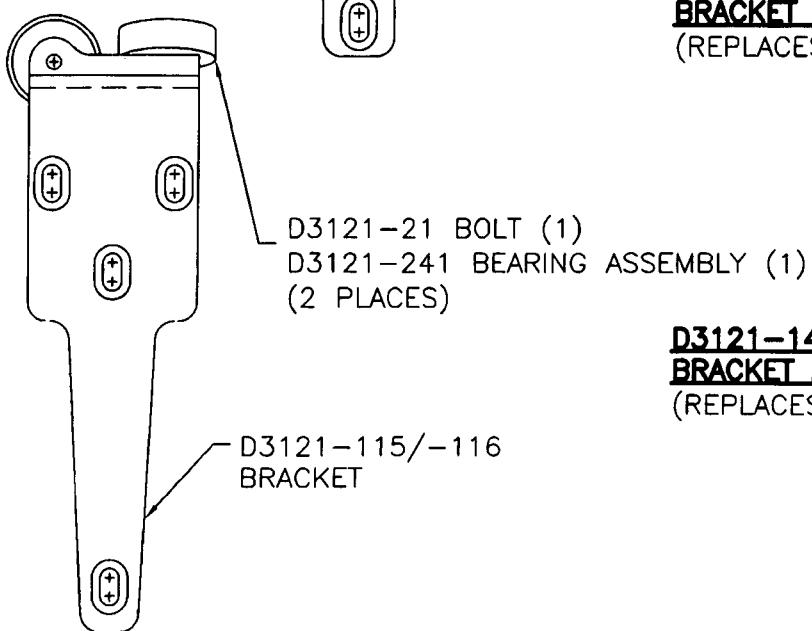


**D3121-141 BRACKET ASSEMBLY**  
(REPLACES PREMIER P/N B30-23001-01)

**RELEASED**  
*07.11.07 W*



**D3121-143 (SHOWN) / D3121-144 (OPPOSITE)  
BRACKET ASSEMBLY**  
(REPLACES PREMIER P/N B30-23000-03/-04)



**D3121-145 (SHOWN) / D3121-146 (OPPOSITE)  
BRACKET ASSEMBLY**  
(REPLACES PREMIER P/N B30-23000-05/-06)

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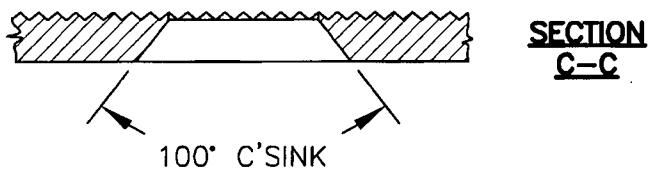
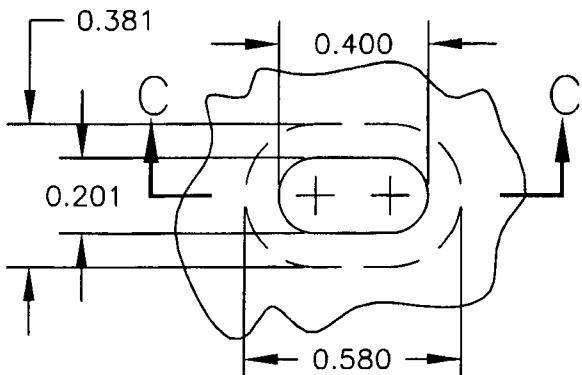
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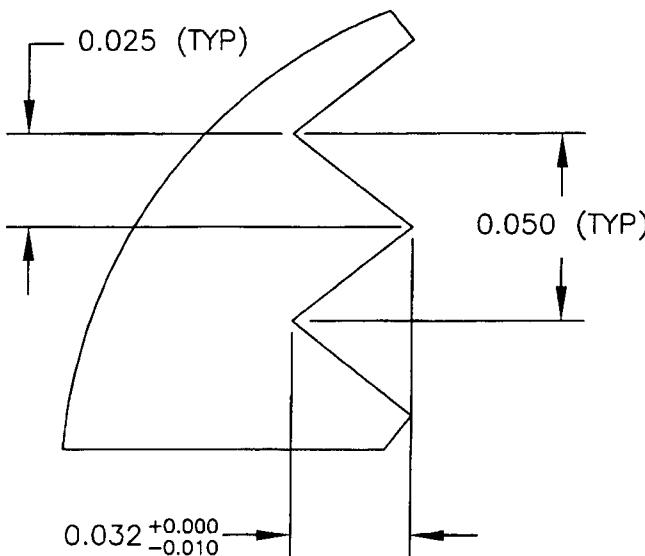
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		D3121	SHEET 3 OF 10
DATE	TITLE	SCALE	1:1
07.11.07	BRACKET ASSEMBLY		

**DETAIL A:**  
**SLOT DETAIL**  
SCALE 2:1  
VIEW ROTATED



**RELEASED**  
07.11.07

**DETAIL B:**  
**RIDGE DETAIL**  
PARTIAL SECTION  
SCALE 1:20



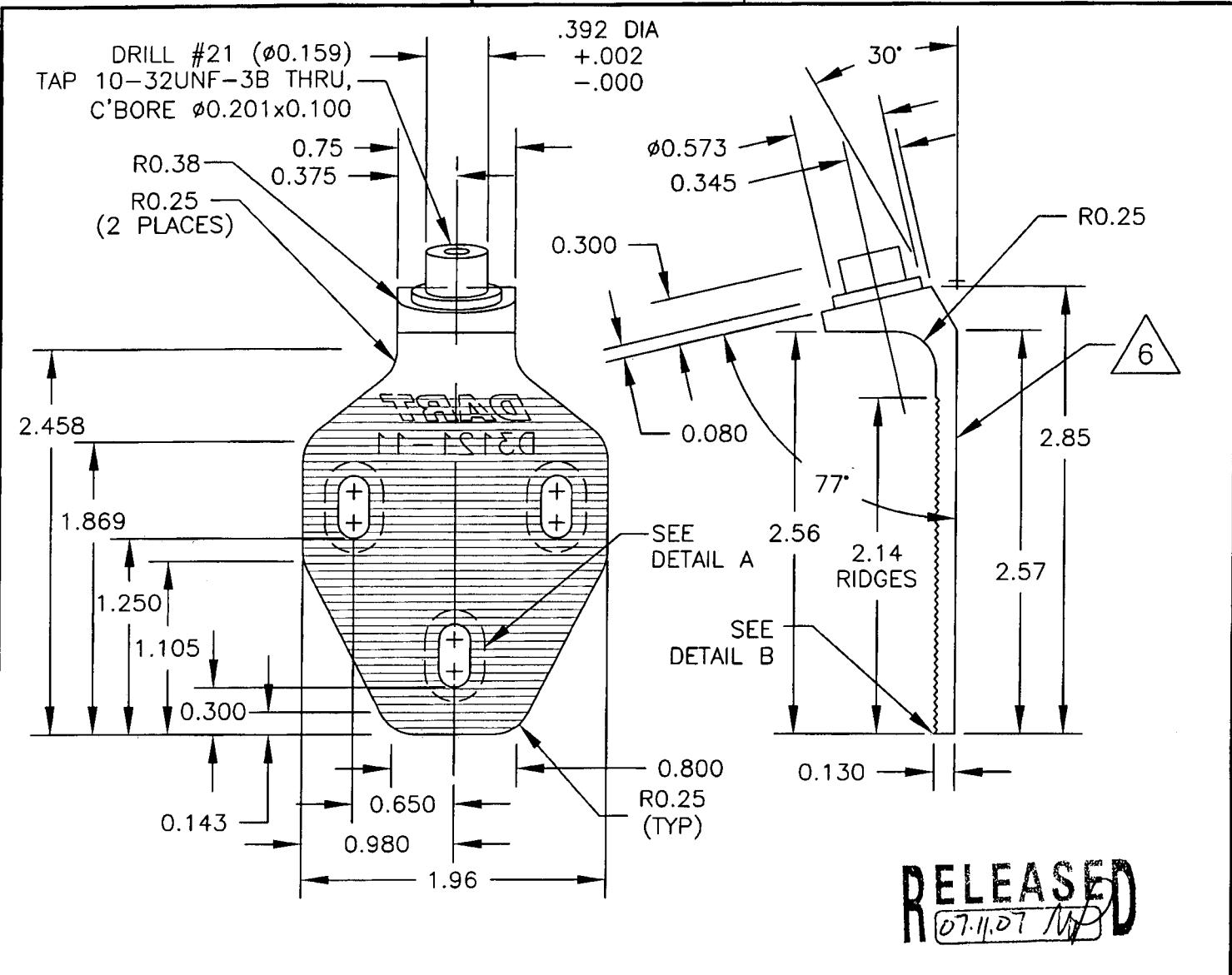
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		D3121	REV. E
DATE	TITLE	SHEET 4 OF 10	SCALE
07.11.07	BRACKET ASSEMBLY		1:1

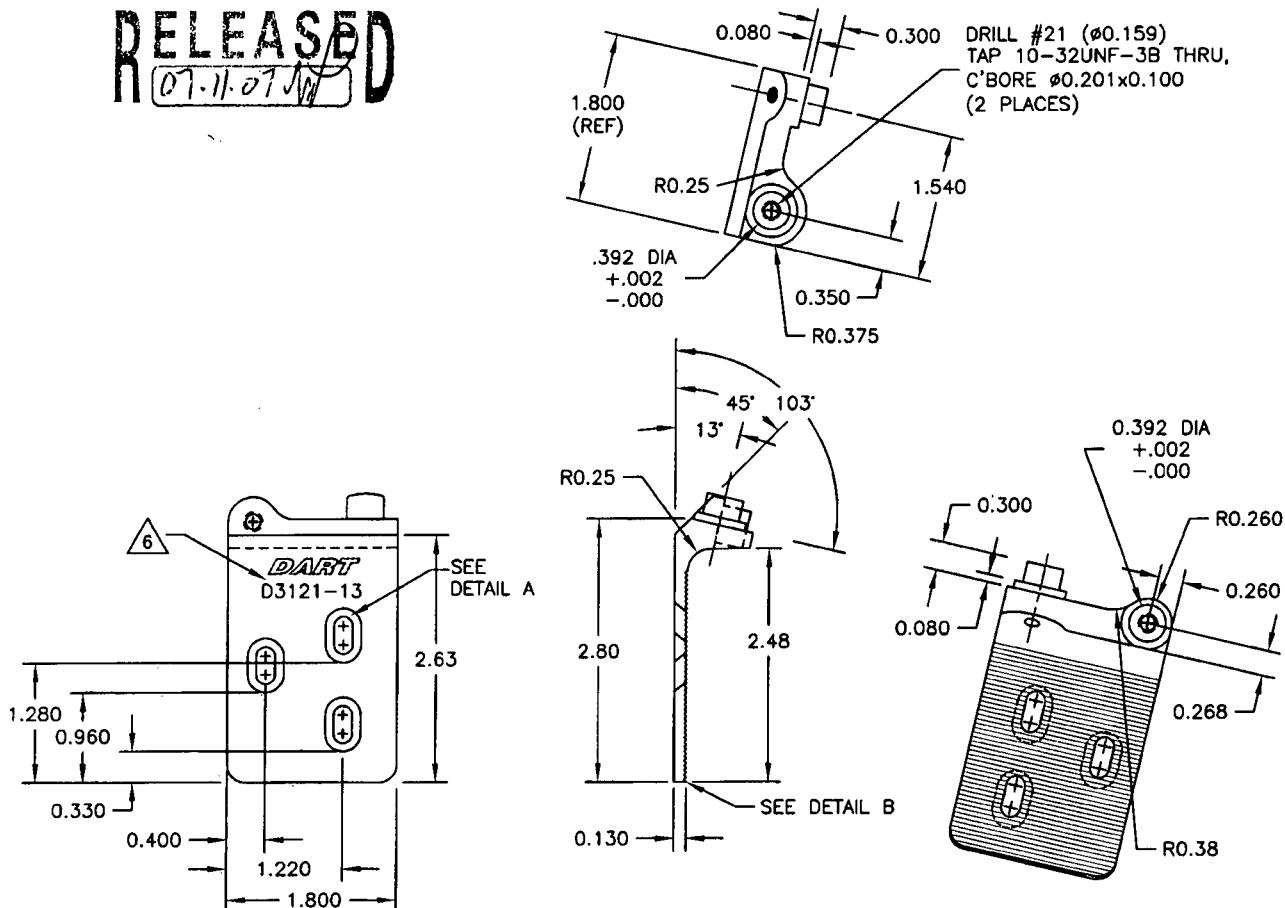
**D3121-11 BRACKET**

- 1) MATERIAL: 17-4 SS PER AMS 5604/5643 (REF DART SPEC. M17-4-B)  
MIN ULTIMATE TENSILE = 150 ksi  
MIN YIELD TENSILE = 100 ksi
- 2) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED
- 3) ALL DIMENSIONS ARE IN INCHES
- 4) BREAK ALL SHARP EDGES 0.005 TO 0.015
- 5) ENGRAVE DART P/N & LOGO AS SHOWN
- 6) HOLE IN SPIGOT TO BE CONCENTRIC WITHIN 0.005

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DATE	07.11.07	REV. E SHEET 5 OF 10 TITLE SCALE BRACKET ASSEMBLY 1:2

**RELEASED**  
07.11.07**D3121-13 BRACKET (SHOWN)  
D3121-14 BRACKET (OPPOSITE)**

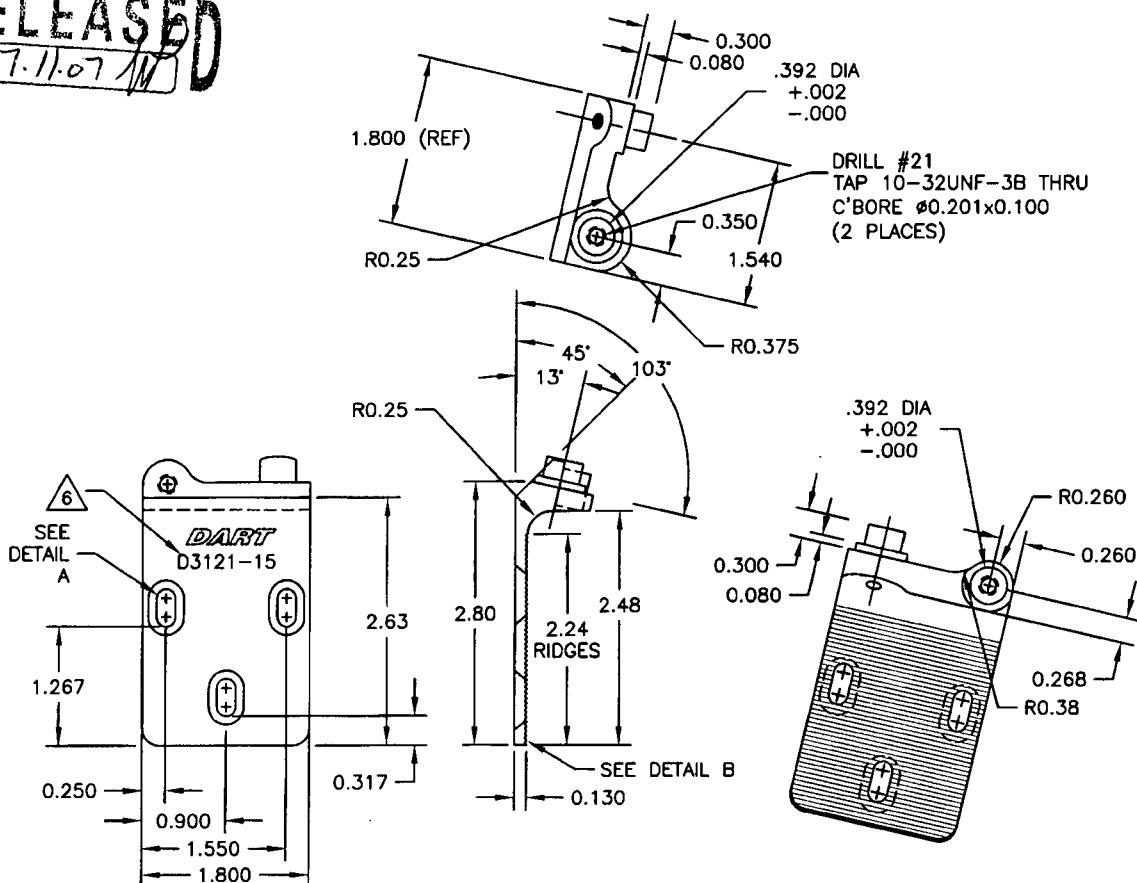
- 1) MATERIAL: 17-4 SS PER AMS 5604/5643 (REF DART SPEC. M17-4-B)  
MIN ULTIMATE TENSILE STRENGTH = 150 ksi  
MIN YIELD TENSILE STRENGTH = 100 ksi
- 2) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED
- 3) ALL DIMENSIONS ARE IN INCHES
- 4) BREAK ALL SHARP EDGES 0.005 TO 0.015
- 5) ENGRAVE DART P/N & LOGO AS SHOWN
- 6) HOLE IN SPIGOT TO BE CONCENTRIC WITHIN 0.005

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DATE 07.11.07	TITLE BRACKET ASSEMBLY		SCALE 1:2	

RELEASED  
07.11.07



D3121-15 BRACKET (SHOWN)

**D3121-16 BRACKET (OPPOSITE)**

- 1) MATERIAL: 17-4 SS PER AMS 5604/5643 (REF DART SPEC. M17)  
MIN ULTIMATE TENSILE = 150 ksi  
MIN YIELD TENSILE = 100 ksi
- 2) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED
- 3) ALL DIMENSIONS ARE IN INCHES
- 4) BREAK ALL SHARP EDGES 0.005 TO 0.015
- 5) ENGRAVE DART P/N AND LOGO AS SHOWN
- 6) HOLE IN SPIGOT TO BE CONCENTRIC WITHIN 0.005

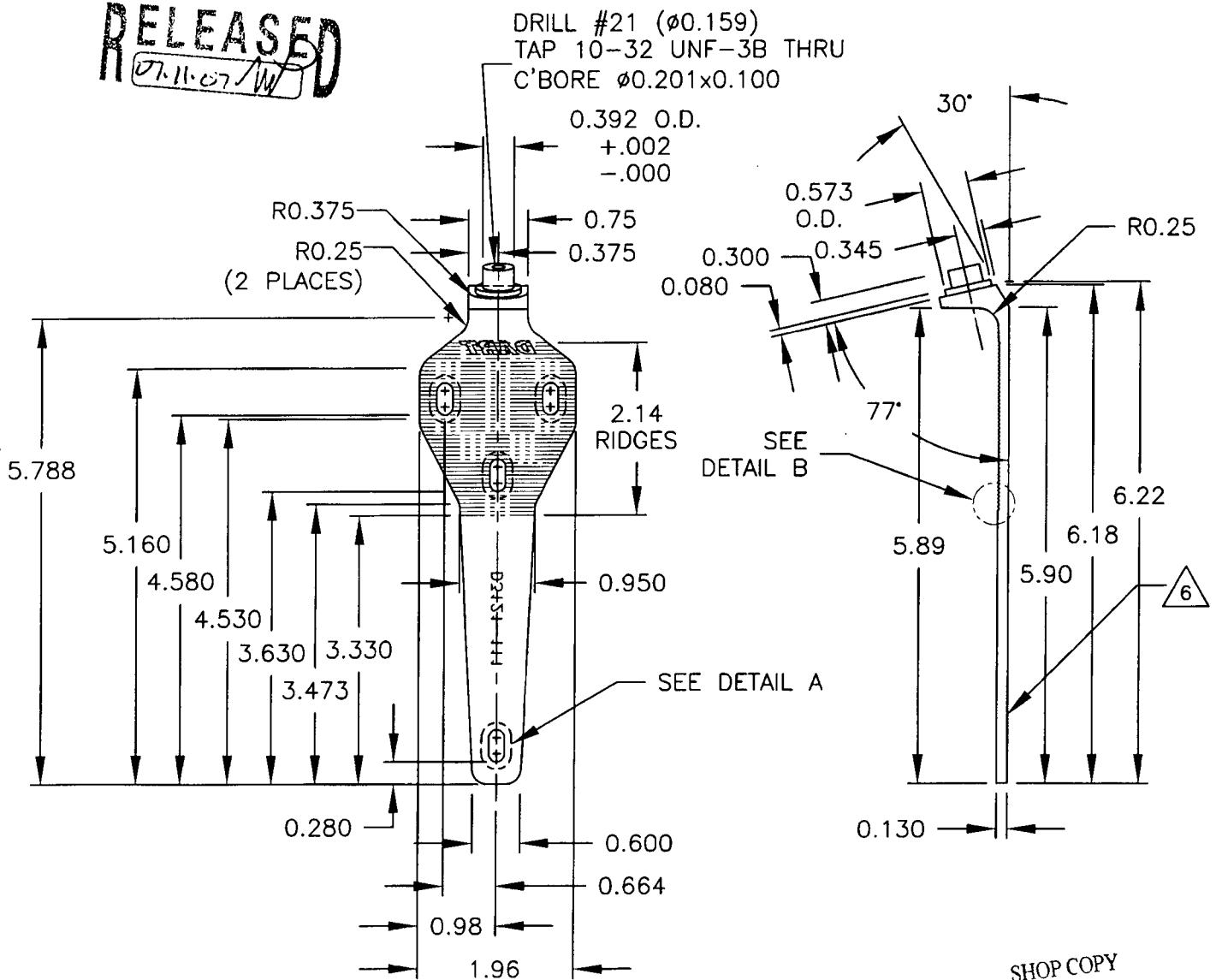
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DATE 07.11.07	TITLE BRACKET ASSEMBLY		SCALE 1:2	

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07.11.07 / W



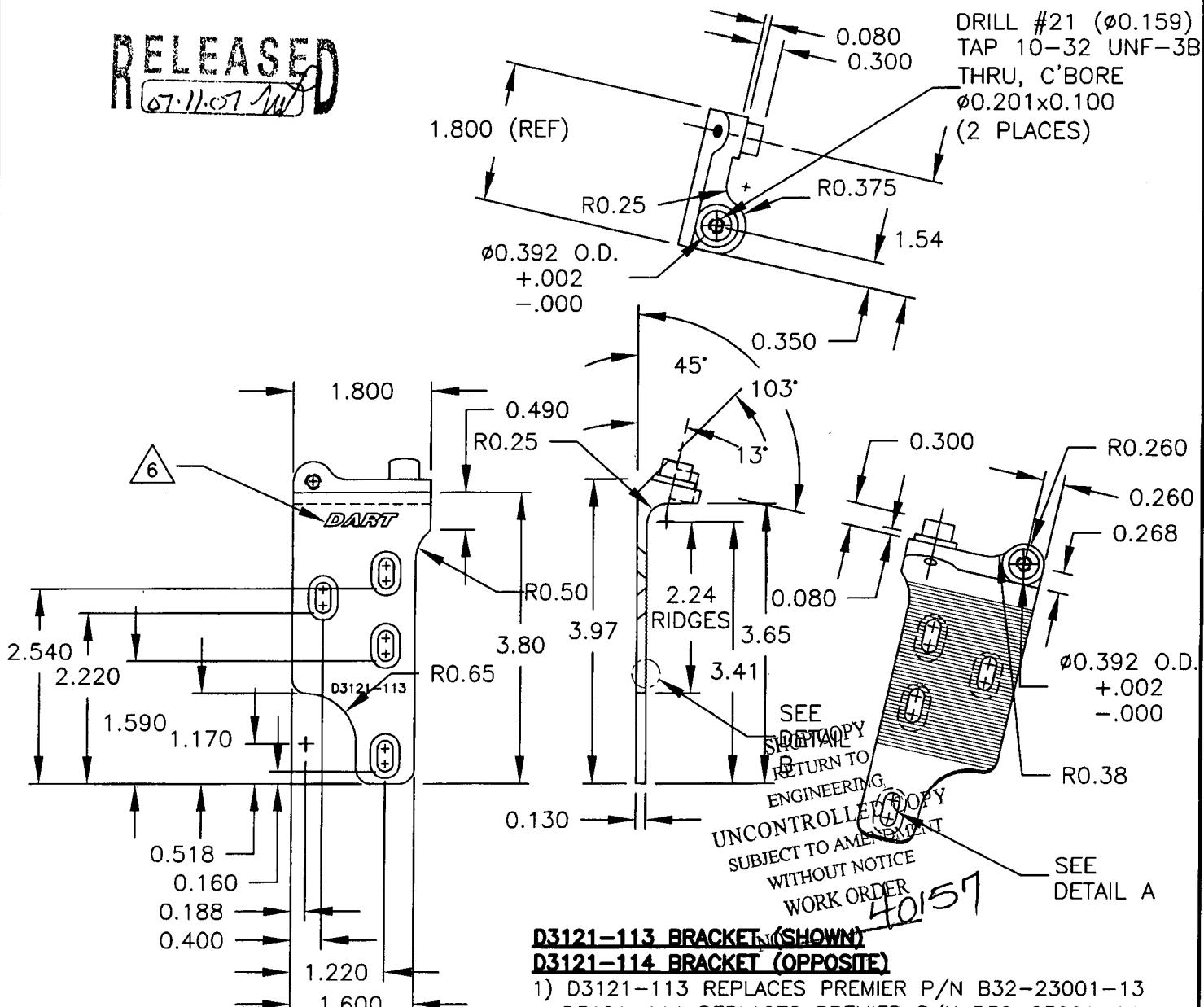
D3121-111 BRACKET

- 1) REPLACES PREMIER P/N B32-23001-11
- 2) MATERIAL: 17-4 SS PER AMS 5604/5643 (REF DART SPEC. M17-4-B)  
MIN ULTIMATE TENSILE = 150 ksi  
MIN YIELD TENSILE = 100 ksi
- 3) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) ALL DIMENSIONS ARE IN INCHES
- 5) BREAK ALL SHARP EDGES 0.005 TO 0.015
- 6) ENGRAVE DART P/N & LOGO IN AREAS SHOWN
- 7) HOLE IN SPIGOT TO BE CONCENTRIC WITHIN 0.005

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		D3121	SHEET 8 OF 10
DATE		TITLE	SCALE
07.11.07		BRACKET ASSEMBLY	1:2

**RELEASED**  
07.11.07 *WJD*

- 1) D3121-113 REPLACES PREMIER P/N B32-23001-13  
D3121-114 REPLACES PREMIER P/N B32-23001-14
- 2) MATERIAL: 17-4 SS PER AMS 5604/5643  
(REF DART SPEC. M17-4-B)  
MIN ULTIMATE TENSILE STRENGTH = 150 ksi  
MIN YIELD TENSILE STRENGTH = 100 ksi
- 3) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) ALL DIMENSIONS ARE IN INCHES
- 5) BREAK ALL SHARP EDGES 0.005 TO 0.015
- 6) ENGRAVE DART P/N & LOGO IN AREAS SHOWN
- 7) HOLE IN SPIGOT TO BE CONCENTRIC WITHIN 0.005

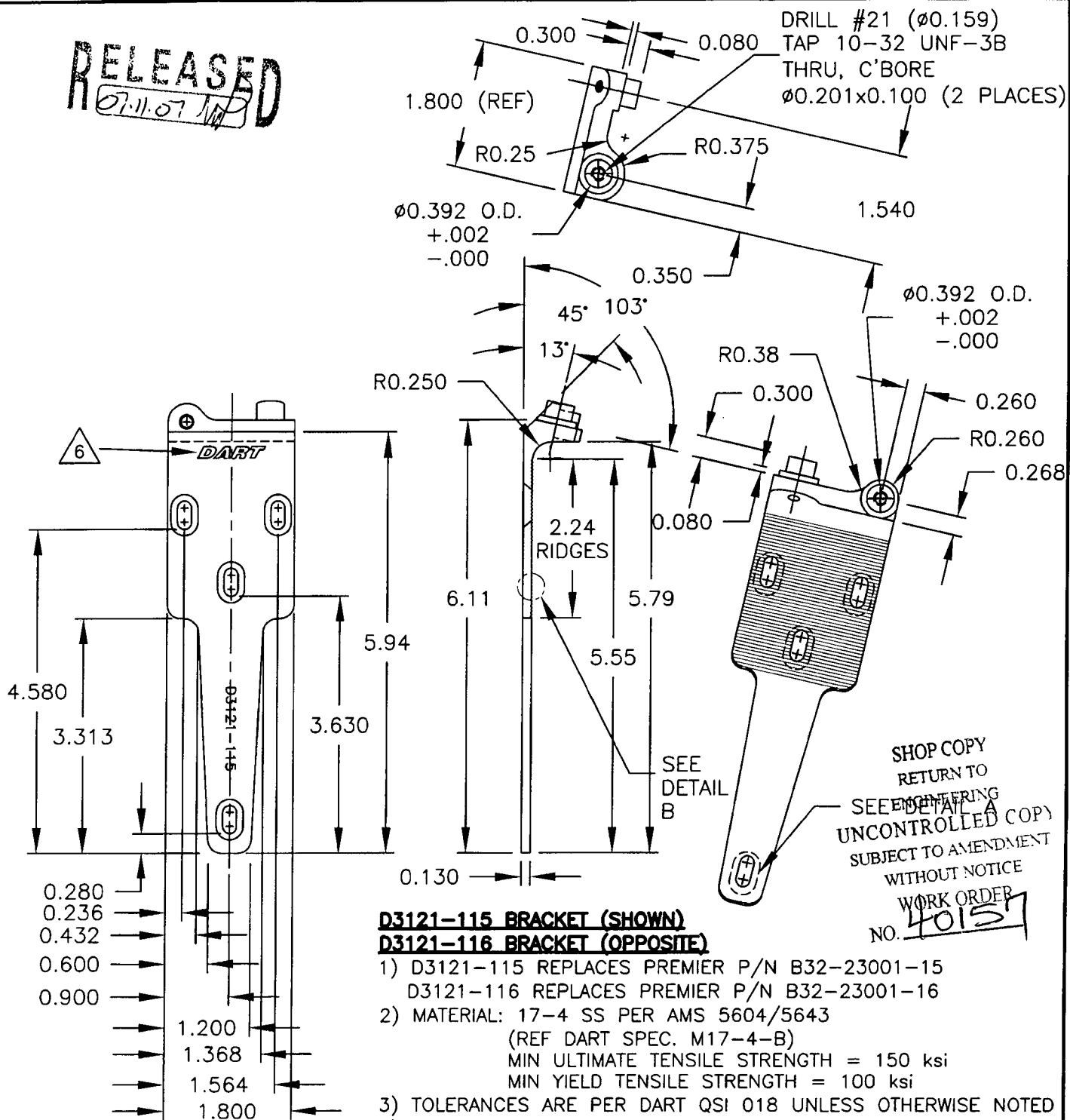
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CHECKED <i>#</i>	APPROVED <del><i>#</i></del>	DRAWING NO. D3121	REV. E	SHEET 9 OF 10
DATE 07.11.07	TITLE BRACKET ASSEMBLY		SCALE 1:2	

RELEASED  
07.11.07 TPD

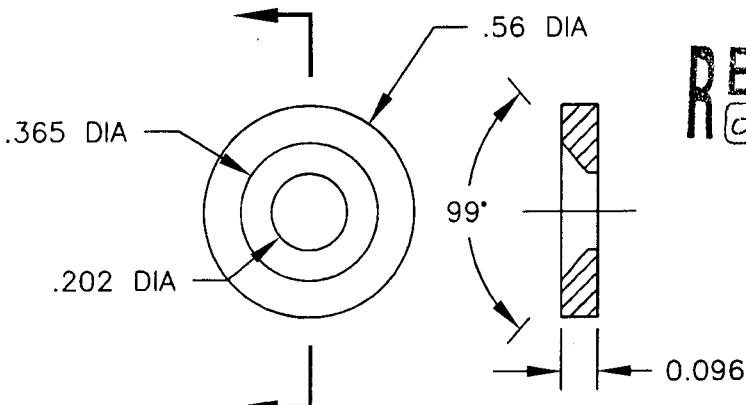


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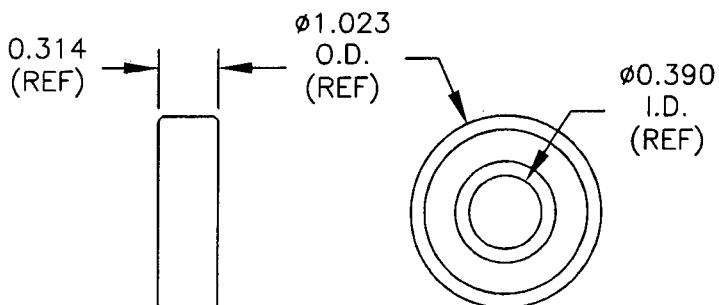
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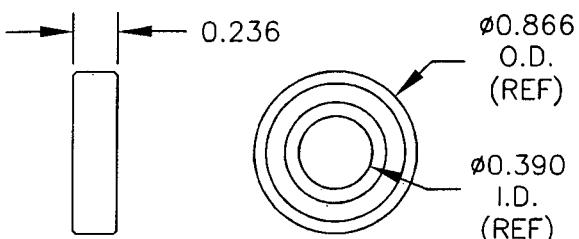
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		D3121	SHEET 10 OF 10
DATE	TITLE	SCALE	1:1
07.11.07	BRACKET ASSEMBLY		

**D3121-17 WASHER (SCALE 2:1)**

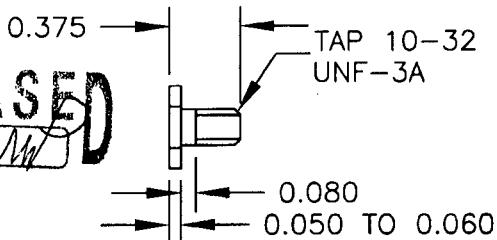
- 1) REPLACES PREMIER P/N B32-23001-17
- 2) MATERIAL: AISI 303 SS ROUND BAR, ANNEALED (REF DART SPEC. M303R)
- 3) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) ALL DIMENSIONS ARE IN INCHES
- 5) BREAK ALL SHARP EDGES 0.005 TO 0.015

**D3121-19 BEARING (SCALE 1:1)**

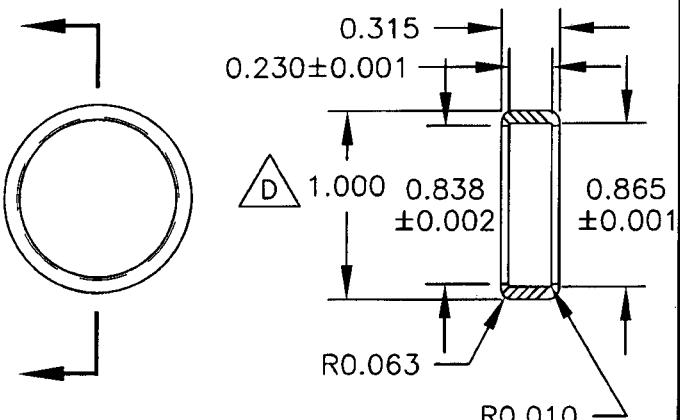
- 1) POSSIBLE SUPPLIER: KING BEARING P/N 6000-2ZJ/EM  
FAFNIR P/N 9100KDD
- 2) ALL DIMENSIONS ARE IN INCHES

**D3121-23 BEARING (SCALE 1:1)**

- 1) POSSIBLE SUPPLIER: SKF P/N 61900-2Z  
OR KML P/N 6900-ZZ
- 2) ALL DIMENSIONS ARE IN INCHES

**D3121-21 BOLT (SCALE 1:1)**

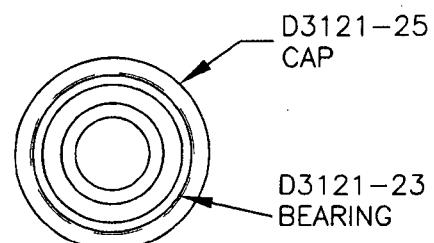
- 1) MATERIAL: AISI 303 SS HEX, ANNEALED (REF DART SPEC. M303H0.500)
- 2) FINISH: NONE
- 3) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) ALL DIMENSIONS ARE IN INCHES
- 5) BREAK ALL SHARP EDGES 0.005 TO 0.015

**D3121-25 CAP (SCALE 1:1)**

- 1) MATERIAL: DELRIN ROD, Ø1.25 (REF DART SPEC. M-DELRIN-R1.250)
- 2) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED

3) ALL DIMENSIONS ARE IN INCHES

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**D3121-241 BEARING ASSEMBLY (SCALE 1:1)**